Investigation of the Relationship between hTERT Serum level and Pathologic Data with the Risk Factors of Breast Cancer in Ardabil province during 1396-97

Abstract

Background and objective: Breast cancer is the second most common cancer in the world that consists 1⁄3 of all women's cancers. Because of the incremental setting of telomerase in cancer cells, the goal of this case-control study is to investigate the relationship between hTERT serum level, as the most important part of telomerase, with pathologic data and risk factors of breast cancer.

Methods: 30 patients of women with breast cancer (new cases) and 30 cancer free controls were chosen randomly. After completing the questionnaires, venous blood samples(4 cc) were taken and after separating the serum, mRNA was extracted and after synthesis of cDNA by Real-time PCR, hTERT serum level measured and data analyzed by SPSS 24 version software.

Results: The Results of the study showed that the mean of hTERT serum level in control's group was 0.74 and in patient's group was 9.88 that there was significant correlation between them. There was significant correlation between hTERT serum level and menarche age and HER-2 expression level but, significant correlation was not found with other pathologic data and risk factors. Also the study showed that by weight gain and using of sausage, burger, potato, pizza, soft drinks and sweet the hTERT's level increases and by increasing regular physical activity time and using of bread, yogurt, vegetables, fruits, milk, fish, chicken, beans and pickle it's level decreases.

Conclusion: The results of study showed that menarche at the age of younger than 13 , high levels of HER-2 expression, low physical activity and using of some foodstuffs can be accompanied with poor prognosis in breast cancer.

Key words: hTERT, breast cancer, risk factors